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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,247	02/17/2004	Lianrui Zhang	TI-36929 (032350.B585)	9664
23494	7590	06/10/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			HOLLINGTON, JERMELE M	
P O BOX 655474, M/S 3999			ART UNIT	
DALLAS, TX 75265			PAPER NUMBER	
			2829	

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/780,247

Applicant(s)

ZHANG ET AL.

Examiner

Jermele M. Hollington

Art Unit

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*AM*

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-20 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, phase comparator permanently positioned in the electronic device [claim 10] must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5-9 and 11-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Krause et al (4031466).

Regarding claim 1, Krause et al disclose [see Figs. 1-3] a system (apparatus 10) for testing an electronic device (combination of motor 15, shaft 13) including a first clock (combination of sensor 12 and amplifier 14) having a first frequency (point 16 in Fig. 3), the system (10) comprising: a tester device (detecting circuit 16) including a housing [shown as the dotted lines around item 17 and 18 in Fig. 2], a clock input, and second clock (combination of VCO 33 and circuit 34) having a second frequency (point 16F in Fig. 3) positioned in the housing, the tester device (17 and 18) operable electrically engage the first clock (12 and 14) using the clock input and to determine that electronic device meets a particular performance standard; phase comparator (phase comparator 30) positioned in the housing and coupled to the second clock (33 and 34) and the clock input, the phase comparator (30) operable to determine a frequency difference between the first (16A) and the second (16F) frequencies; a filter (low pass filter 31) positioned in the housing and coupled to the phase comparator (30), the filter (31) operable generate a signal indicative of the frequency difference based on the determined frequency difference; and an amplifier (amplifier 32) positioned in the housing and coupled to the filter (31), the amplifier (32) operable to generate a voltage value indicative of the frequency difference based on the generated signal.

Regarding claim 2, Krause et al disclose a clock output coupled to the amplifier (32), the clock output operable to electrically engage the first clock (12 and 14), and wherein the amplifier (32) is operable transmit the voltage value to the first clock (12 and 14).

Regarding claim 3, Krause et al disclose the amplifier (32) is operable to transmit the voltage value to the second clock (33 and 34), and wherein the second clock (33) is a voltage controlled oscillator (VCO 33) amplifier operable to receive the voltage value from the amplifier (32) and adjust the second frequency to a new frequency that is substantially equal the first frequency.

Regarding claim 5, Krause et al disclose a method for testing a device (combination of motor 15 and shaft 13), comprising: testing an electronic device (15 and 13) having a first operating frequency (point 16A in Fig. 3) [provided by combination of sensor 12 and amplifier 14] by a tester device (detecting circuit 16) having a second frequency (point 16F in Fig. 3); during the testing, repeatedly determining any frequency difference between the first operating frequency (16A) and the second operating frequency (16F); and for each determination of the frequency difference, generating [via VCO 33] a voltage value indicative of the frequency difference and equalizing [via pulse accumulator 21] the first (16A) and the second (16F) operating frequencies using the voltage value.

Regarding claim 6, Krause et al disclose the equalizing [via item 21] comprises adjusting the first operating frequency (16A) by frequency difference indicated by the voltage value.

Regarding claim 7, Krause et al disclose the equalizing [via 21] comprises adjusting the second operating frequency (16F) by the frequency difference indicated by the voltage value.

Regarding claim 8, Krause et al disclose determining [via indicator 20] that a level of change in the voltage value compared a previously generated voltage value exceeds a predetermined level; indicating [via indicator 20] that the electronic device (15 and 13) does meet a particular performance standard.

Regarding claim 9, Krause et al disclose the electronic device (15 and 13) is an integrated circuit and testing is conducted prior to an installation of the electronic device (15 and 13) in a final product.

Regarding claim 11, Krause et al disclose determining any frequency difference comprises determining any frequency difference using a phase comparator (phase comparator 30) permanently positioned the tester device (16).

Regarding claim 12, Krause et al disclose testing [via item 16] comprises performing a diagnostic procedure prior an installation of the electronic device (15 and 13) in a final product.

Regarding claim 13, Krause et al disclose a method for testing a device (combination of motor 15 and shaft 13), comprising: testing an electronic device (15 and 13) having a first operating frequency (point 16A in Fig. 3) [provided by combination of sensor 12 and amplifier 14] by a tester device (detecting circuit 16) having a second frequency (point 16F in Fig. 3); during the test, determining any frequency difference between the first operating frequency (16A) and the second operating frequency (16F); and initiating an equalization [via pulse accumulator 21] of the first (16A) and the second (16F) operating frequencies using a signal indicative of the frequency difference.

Regarding claim 14, Krause et al disclose generating [via VCO 33] voltage value indicative of the frequency difference, wherein the voltage value used as the signal.

Regarding claim 15, Krause et al disclose the acts of determining a frequency difference and initiating equalization are performed using the tester device (16).

Regarding claim 16, Krause et al disclose initiating the equalization [via item 21] comprises adjusting the first operating (16A) frequency by the frequency difference indicated by the signal.

Regarding claim 17, Krause et al disclose initiating the equalization comprises: transmitting the signal to the electronic device (15 and 13); and adjusting the second operating frequency (16F) by the frequency difference indicated by the signal.

Regarding claim 18, Krause et al disclose the signal is voltage value, and further comprising: determining [via item 16] that a level of change the voltage value compared a previously generated voltage value exceeds a predetermined level; and indicating (indicator 20) that the electronic device (15 and 13) does not meet a predetermined performance standard.

Regarding claim 19, Krause et al disclose determining the frequency difference is performed using a phase comparator (30) permanently coupled to the tester device (16).

Regarding claim 20, Krause et al disclose determining the frequency difference is performed using a phase lock loop circuit (phase locked loop 17) positioned in the tester device (16).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krause et al (4031466) in view of Froese et al (4363131).

Regarding claim 4. Krause et al disclose [see Figs. 1-3] a system (apparatus 10) for testing an electronic device (combination of motor 15, shaft 13) including a first clock (combination of sensor 12 and amplifier 14) having a first frequency (point 16 in Fig. 3). However, they do not disclose the amplifier is coupled to a voltmeter as claimed. Froese et al disclose a tester device (phase lock loop 42) including a housing, a second clock (46) having a second frequency (48) positioned in the housing, a phase comparator (phase detector 44) in the housing, a filter (loop filter 56) in the housing and an amplifier (amplifier 52) in the housing wherein the amplifier (52) is coupled to a voltmeter (meter 74) [via detector 70 and amplifier 66] operable to indicate any change to the voltage value from a previous voltage value. Further, Froese et al teach that the addition of a voltmeter is advantageous because the filters and equalizers are adjusted so as to obtain the minimum meter reading. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the apparatus of Krause et al by adding voltmeter as taught by Froese et al in order to obtain the minimum meter reading by adjusting the filters and equalizers in the system.

### *Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure [see Information Disclosure Statement PTO-892].

7. Claim 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.



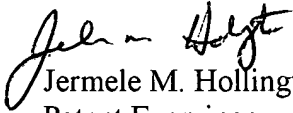
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8. The following is a statement of reasons for the indication of allowable subject matter: regarding claim 10, the primary reason for the allowance of the claim is due to method of determining any frequency difference comprising a phase detector permanently positioned in the electronic device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermele M. Hollington whose telephone number is (571) 272-1960. The examiner can normally be reached on M-F (9:00-4:30 EST) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (517) 272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jermele M. Hollington  
Patent Examiner  
Art Unit 2829

JMH  
June 9, 2005